

What is claimed is:

1. An optical disk apparatus for recording and reproducing information to and from an optical disk, comprising:

5       an optical pickup irradiating a light beam onto an optical disk surface for recording and reproducing the information to generate an analogue reproduction signal therefrom;

      an A/D converter for converting the analogue reproduction signal into a digital form;

10       an adaptive equalizer receiving the digital reproduction signal from the A/D converter and adaptively renewing a plurality of tap coefficients of a FIR filter; and

      an aberration control apparatus for controlling to minimize an aberration contained in a spot of a light beam irradiated from the optical pickup onto the optical disk,

15       wherein the aberration control apparatus comprises:

      an aberration detector for detecting the aberration of the light beam spot using the tap coefficients of the adaptive equalizer and generating an aberration detection signal in accordance with the detected aberration;

20       an aberration correcting unit for correcting the aberration of the light beam spot; and

      a correction control unit for controlling the aberration correction of the aberration correcting unit in accordance with the aberration detection signal to minimize the aberration of the light beam spot.

25       2. The optical disk apparatus as claimed in claim 1, wherein the aberration detector detects the aberration by comparing at least one pair of the tap coefficients symmetrical with respect to a center position in time delay order thereof.

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3. The optical disk apparatus as claimed in claim 2, wherein the number of the plurality of the tap coefficients is odd in time delay order, and the correction control unit controls the aberration correction of the aberration correcting unit in a manner that at least a pair of the symmetrical tap coefficients are substantially made coincident with each other.

4. The optical disk apparatus as claimed in claim 1, wherein the optical disk is a recordable and reproducible disk having a sector format including a prepit address region and an information recording region and the aberration control is executed in accordance with the aberration detected based on the tap coefficients of the FIR filter obtained by equalization learning of the reproduction signal read out of the prepit address region when the information is recorded and reproduced.

5. The optical disk apparatus as claimed in claim 4, wherein the equalization learning result of the reproduction signal read out of the prepit address region is previously obtained and stored in a storage portion when the information is recorded to the optical disk.

6. The optical disk apparatus as claimed in claim 1, wherein the aberration detected based on the tap coefficients is previously stored in a temporary storage portion and the stored aberration is used to conduct the aberration control.

7. The optical disk apparatus as claimed in claim 1, wherein the correction control unit stores the aberration detected based on the equalization learning result of the reproduction signal read out of optional one track and the stored aberration is used to conduct the aberration control.